				U.S. Army Corps of Engineers (Corps) Review of Public Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Bay Delta Conservation Plan (BDCP)
#	**Chapter**	**Page #**	**Line #**	**Comment**
1	Note			The Corps has regulatory jurisdiction over portions of the BDCP under Section 404 of the Clean Water Act, 33 U.S. Code 1344 (section 404), and Sections 10 and 14 of the Rivers and Harbors Act of 1899, 33 U.S. Code 403 and 33 U.S. Code 408 (sections 10 and 14). All usage of the term "section 10" below refers to Section 10 of the Rivers and Harbors Act of 1899, and not to Section 10 of the Endangered Species Act.
2	Note			We note that very few of the 429 comments we made on the administrative draft EIS/EIR have been adequately addressed in the public draft EIS/EIR or anywhere else. We consider all those prior comments to remain applicable, and we have tried not to repeat them in our below comments on the public draft EIS/EIR.
3	Overall			The Corps only reviewed in detail the Chapters that we have comments as listed below. Our review was further constrained by limitations of staff time and by the size and organization of the EIS/EIR.
4	Overall			The EIS/EIR does not contain the information and analysis needed for our permit decisions, including, but not limited to, a complete project description, analysis of impacts to navigation, analysis of impacts to Federal projects, delineation of wetlands, an acceptable alternatives analysis, and a mitigation plan.
5	Overall			For purposes of National Environmental Policy Act (NEPA) compliance for our permit decisions, Conservation Measure 1 (CM1), the proposed new water intakes, operations, and conveyance facilities, is not fully described in the EIS/EIR, and its description and analysis is not to the level of detail necessary for our processes. The incomplete information and analysis would prevent us from making any decision based on the EIS/EIR as it is currently written, including making a recommendation on which alternative may contain the Least Environmentally Damaging Practicable Alternative (LEDPA). As a result, we would likely require an additional EIS process as part of our permitting review for CM1.
6	Overall			The Corps had hoped that the BDCP process would develop an EIS/EIR document which could serve as a "master analysis" that would be helpful to all others doing work in the Delta, so that each project doesn't need to repeat similar modeling and analysis. Unfortunately, the data and analysis in the EIS/EIR is already several years out of date, and various data sets are incomplete or have been truncated. This reduces the likelihood that we could incorporate or borrow analysis from the EIS/EIR in support of other future Corps permit and project decisions.

7	Overall			The Corps does have major concerns regarding all the components of the BDCP which may alter or be adjacent to Federal projects. However, because Conservation Measures 2 through 22 are only described in very general programmatic terms, we were only able to give detailed comments on CM1. We ask to continue to be included in the planning and development of the remaining Conservation Measures so that we can work together to develop designs which may be able to obtain permits.
8	Overall			The Corps has no opinion on the usability of the EIS/EIR by other agencies for their decisions. All of our comments are in regards to our permitting processes, including compliance with NEPA for our permitting decisions.
9	Overall			Typically our regulatory program considers impacts which last for 5, 10, or more years as permanent impacts, not as temporary impacts as is described throughout the document.
10	Overall			Throughout document, use “section 14” in place of “section 408” for all reference to Section 14 of the Rivers and Harbors Act of 1899, 33 U.S. Code 408.
11	Overall			We are concerned about the inadequate treatment of two proposed navigation projects: The Sacramento River Deep Water Ship Channel deepening and the San Francisco Bay to Stockton deepening project. The EIS/EIR concludes that there is no need to consider either project under NEPA regarding items such as existing conditions or cumulative impacts. We strongly disagree with that conclusion. These ship channels are significant hydrologic and economic features of the Delta, and intersect with the BDCP in numerous ways, including overlapping project mitigation and BDCP restoration areas, overlapping dredged material disposal and BDCP restoration areas, cumulative changes to salinity in the Delta, and the potential for beneficial reuse of dredged material. The proposed navigation projects must be included in the cumulative impacts analysis of the EIS/EIR, and the ongoing need for maintenance dredging and to maintain and operate dredged material disposal sites must also be included in the existing conditions of the EIS/EIR.
12	1	1-14	8-18	Design information for CM1 is available but not at the project level for those potential impacts to federal projects, surface water hydrological regimes, navigation, mitigation projects impacting Federal projects, and other related impact topics required for a project level NEPA required for section 14 decisions. The impacts analysis needed for the section 14 must be included if this is project-level NEPA document for CM1.
13	1	1-14	1-39	The EIR/EIS presents the levels of analysis, project level and program level, for CM1 (project level), and the CM2-CM22 (all analyzed at the program level). Mitigations for CM1 are included in several of the other CMs; therefore, they are directly related to feasibility of implementation of CM1 (connected actions), and impacts should be assessed at the project level (CM2-CM10). Any portion of CMs 2-22 which are mitigation for impacts of CM1 also need to be described and analyzed at the project level of detail.

14	1	1-14 to 1-15	42-43; 1-7	In the HCP, some of the water contractors are called "authorized entities" What is the difference in both role and responsibilities for "BDCP proponents" versus "authorized entities"?
15	1	1-20	31 to 39	Delete "For example, USACE is expected to use the BDCP EIR/EIS as part of its permit issuance responsibilities regarding compliance with Section 404 of the Clean Water Act, which would result in a separate Record of Decision in consideration of related permit actions; Section 404 compliance requires that USACE select the Least Environmentally Damaging Practicable Alternative for implementation under 40 C.F.R Part 230 (the "Guidelines"), and to assure compliance with the USACE/EPA joint "Mitigation Rule" (33 C.F.R. Parts 325 and 332, and 40 C.F.R. Part 230) USACE may rely on this EIS/EIR in whole or part in satisfying its NEPA obligations with respect to individual permit actions. In fulfilling its obligation with respect to those permits, USACE may determine that additional NEPA analysis is required."
16	1	1-21	Table 1-2	Under USACE permit, decision, approval, or other action: Executive Order 11988 was left out of this list and does need to be considered and addressed with all section 10/404 and 14 actions
17	1	1-24		Should include a subsection on tribal review (government to government) and other stakeholder outreach/coordination/consultation
18	1	1-30	9	Insert "would" require a separate ROD
19	3	Overall		The document needs a clear explanation of a reasonable range of alternatives and a comparison of such, including a concise description of the environmental consequences of each.
20	3	Overall		When CM1 moves into Corps permitting review, we would need a full project level review and analysis of all the impacts of CM1, including all proposed mitigation. The EIS/EIR does not contain a project level review nor does it analyze the impacts of the mitigation proposed for CM1, including setback levees mentioned at 6-59 and waters of the U.S. mitigation mentioned at 12-147. Permanent and temporary loss of terrestrial habitat and natural communities (specifically wetlands) resulting from CM1 construction and operations, including associated mitigation, are not clearly described or analyzed at the level necessary to select a preferred alternative. Much of the mitigation for impacts to terrestrial habits resulting from CM1 construction operations is based on theoretical footprints and aerial imagery. There is too much uncertainty to conclude that adverse effects to natural communities would be mitigated entirely.
21	3	General		This chapter was very difficult to follow. Additional figures are needed to better communicate all of the potential measures, especially as they pertain to CM1. Also, include other figures to locate other CMs. These would be extremely helpful in identifying the wide array of potential 14 approvals which may be required for the full implementation of the BDCP.
22	3	General		New conveyance was not a part of the preferred alternative for CalFed. Does this EIS/EIR describe why the reasons for rejecting new conveyance in CalFed are no longer valid? The CalFed EIS/EIR and

				ROD are presently being cited in support of major projects consistent with the CalFed preferred alternative, including raising Shasta Dam (Shasta Lake Water Resources Investigation), constructing Sites Reservoir (NODOS) and constructing a dam at Temperance Flats in Millerton Reservoir (Upper San Joaquin River Basin Storage Investigation).
23	3	General		Unable to determine which conservation measure included improvements to the existing fish salvage facilities.
24	3	3-34	11-15	Some questions on the new operational rules for the north delta intake diversions. 1) How do these operations relate to the operations of the existing State Water Project diversion at Clifton Court Forebay? Neither description states how the two diversions would operate together; i.e., when the south is operating at high level, does the north have to operate at low level or vice versa or can both be on at full capacity as long as stated parameters are met? 2) There doesn't seem to be a discussion in document of how the diversion of water at the new intakes plus the old intakes would affect water levels, direction of flow, velocity, scour and accretion, both at the area of diversions north and south as well as throughout the delta. On 6-59 the document discusses water level change from the physical constriction of the river by the new structures, but nowhere was the operational effects to water levels. This isn't asking about OMR reverse flow criteria or position of X2.
25	3	3-92	23-24	Example of lack of specificity which affects our ability to compare alternatives as well as different intake locations: "Foundation type, dimensions, and construction methods would be revised further when additional site-specific subsurface geotechnical data becomes available."
26	3	3-92	34-37	Example of lack of specificity which affects our ability to compare alternatives as well as different intake locations: "The length of the bank protection required on either side of the intake would vary by intake location but would range from approximately 100 to 2,200 feet for the pipeline/tunnel, modified pipeline/tunnel, and east alignments, and from 500 to 1,800 feet for the west alignment."
27	3	Section 3.1; 3-92	37-38	The intakes and associated bank protection would permanently change existing substrates and local hydraulic conditions in the immediate vicinity of the intakes. How would the hydraulic conditions change? Has this been modeled?
28	3	Section 3.1; 3-92	37-42	Here the EIS/EIR states the Sacramento River would remain navigable during construction of the intakes, but it does not state the maximum width of boats that would be able to navigate up the Sacramento River. Please describe current navigation concerns and current boating/shipping activities in the river segments proposed for intake construction. The Horn Blower is about 60' wide and the San Francisco Belle is a 2200 passenger boat, 97' wide. Here it states that river channel width at several intake sites varies from a minimum width of 400 feet, and the protrusion of cofferdams into the river is estimated at 60 feet. The river does not appear to be that wide at proposed intake sites for Alternative

				4. Where exactly is the river a minimum of 400' wide from Courtland to Clarksburg? A diagram would help.
29	3	3-92	39-41	Extension from the bank into the Sacramento River is not the only factor in determining impacts to navigation. The depth of the River is also important; if the facility is located in the deepest side of the River its impacts to navigation would be disproportionate to its extension from the shore. In addition, intakes could also affect navigation by altering the water depth, velocity, direction of flow, and patterns of erosion and accretion, both by the physical structure of the intakes as well as the diversion of water by the intake. This is also another example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations.
30	3	3-95	4-35	Example of lack of specificity which affects our ability to compare alternatives: This section described that for a 30 mile pipeline, a maximum of 80 acres of additional surface disturbance might be needed for grout injection, but that this won't be known until site specific subsurface conditions are known.
31	3	Section 3.1; 3-181	20-22	All operations of new intake and conveyance facilities included as either covered activities, or federal actions associated with the BDCP (or an alternative), and the effects of those activities/actions are not thoroughly addressed in the BDCP EIS at the level of detail required for Corps permitting.
32	3	Section 3.2; 3-12	28-35	Through formulation of CM1 alternatives, agencies should have considered and analyzed impacts to waters of the US and wetlands that would occur from implementation of CM1, particularly with type and location of conveyance, and number and location of intakes. This would provide assist in determining the LEDPA (least environmentally damaging practicable alt) required by the Corps under section 404(b)(1).
33	3A	3A-15	39-45	We comply with NEPA (Pub. L. 91-190, 42 U.S.C. 4321-4347), 40 CFR 1500-1508, 33 CFR Part 230, 33 CFR Part 325 Appendix B. DOI NEPA regulations do not apply to Corps NEPA analysis associated with permit decisions.
34	3A	3A-59	16-22	The "Early Look" preliminary effects analysis did not consider periodic and contiguous drought years with decreased precipitation and snow pack, and related changes in water exports during drought periods.
35	3A	3A-7	35-36	Further information, clarification (and associates citations) is needed regarding seismic risk.
36	3B	3B	3B-4	Conduct surveys in project area to identify cultural resources that may be affected.
37	3B	3B-22	6-7	Loss of emergent vegetation and associated post-project restoration may require section 404 permits
38	3B	3B-36		Construction of dredge material disposal sites may require section 404 permits
39	3C	General		We need detailed hydraulics and designs to verify that assumptions are correct or within ranges.
40	3C	3C-3	Table 3C-1	Example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations: "Each intake would range from 40 to 60 ft wide and 700 to 2,300 ft long."

41	3C	3C-4	Table 3C-1	Example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations: "The length of the temporary cofferdam at each intake site would vary depending on the alignment and intake but would range from 740 ft to 2,500 ft for the pipeline/tunnel alignment and modified pipeline/tunnel alignment, and 890 ft to 2,440 ft for the west alignment."
42	3C	3C-4-5	Table 3C-1	Example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations: "The in-water area temporarily isolated inside the temporary cofferdam would vary by intake location, but would range from 0.2 to 5 acres."
43	3C	3C-5	Table 3C-1	Example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations: "permanent cofferdams would range in length from 1,220 to 3,360 linear ft."
44	3C	3C-5	Table 3C-1	Example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations: "Affects area enclosed by cofferdam, approximately 0.2-1.9 acres."
45	3C	3C-6	Table 3C-1	Table states "15,876 cy of spoil (including slurry bulking) removed." Respectfully express skepticism at the level of exactness here when the document gives all other dimensions in very broad ranges.
46	3C	3C-7	Table 3C-1	Example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations: "Screen dimensions would vary depending on location, ranging from 10 to 22 ft high and from 915 to 1,935 ft long."
47	3D			Unclear why the "River Islands" project is not included. This long planned development may alter the viability of restoration opportunity areas in the south Delta.
48	3D			Which CalFed projects are included and which are not and why
49	3D			Unclear why the U.S. Bureau of Reclamation's "Title XVI Recycled Water Program" project is not included. This long-standing program reduces water demands.
50	3D	3D-23	6-13	Unclear about some assumptions in the No Action Alternative regarding the Central Valley Flood Control Plan. Please clarify.
51	3D	3D-30		What assumptions were made for the "Fish Screen and Passage Program" in the cumulative analysis? Which barriers are anticipated to be removed and when and how? Which intakes are anticipated to be screened and when and how? Would these fish screen projects result in changes to the timing and amounts of water diverted at those facilities?
52	3D	3D-47		Unclear why "South Delta Temporary Barriers Projects" is not included in the cumulative analysis.
53	3D	3D-52		Unclear why "North Bay Aqueduct Alternative Intake Project" is not included in the cumulative analysis. This project proposes another intake structure/water diversion in the Sacramento River near the CM1 intake locations, and the cumulative impacts of both projects should be analyzed. Also, this project contains alternatives which include sharing BDCP facilities.
54	3D	3D-52		Unclear why "Dutch Slough Tidal Marsh Restoration Project" is not included in the cumulative analysis. This is a very long-standing effort anticipated by many to be ready for implementation prior

				to authorization of the BDCP.
55	3D	3D-75		Unclear why "Sacramento River Water Reliability Study" is not included in the cumulative analysis. This project proposes another intake structure/water diversion in the Sacramento River near the CM1 intake locations, and the cumulative impacts of both projects should be analyzed.
56	3D	3D-83		Unclear why "Delta Wetlands Project" is not included in the cumulative analysis. This is a very long-standing effort which is much further along than the "NODOS" project, which is included in the cumulative analysis.
57	3D	3D-87		Unclear why "Lower San Joaquin Feasibility Study" is not included in the cumulative analysis.
58	3D	3D-88		Unclear why "Delta Islands and Levees Feasibility Study" is not included in the cumulative analysis.
59	3D	3D-88-89		The EIS/EIR appears to exclude from their analysis the current efforts underway to make navigational improvements to the Stockton Deep Water Ship Channel and the Sacramento Deep Water Ship Channel as well as the ongoing need to maintain and operate dredged material disposal sites for routine USACE and Port maintenance dredging programs. USACE is concerned that by excluding these navigational improvement projects: 1) the navigational improvement projects may not be able to obtain regulatory approval as they would be "inconsistent" with the BDCP; 2) the BDCP's planned reoperations of the CVP and SWP may need to be remodeled/modified if one or more navigational improvement projects is constructed as the EIS/EIR isn't considering the cumulative impacts to salinity intrusion and sensitive species impacts; 3) the habitat planned in the vicinity of the Sacramento Deep Water Ship Channel may not perform as expected because the BDCP did not take into account navigational improvements to that channel, 4) the habitat planned in the BDCP may be in conflict with both ongoing O&M upland dredged material placement sites, and 5) the BDCP would not be able to benefit from beneficial use of dredged material.
60	3D	3D-90		Unclear why "Shasta Lake Water Resources Investigation" is not included in the cumulative analysis. This is a part of the same effort as the "NODOS" project, which is included in the cumulative analysis.
61	3D	3D-90		Unclear why "Delta-Mendota Canal Recirculation Feasibility Study" is not included in the cumulative analysis.
62	3D	3D-92		Unclear why "Upper San Joaquin River Basin Storage Investigation" is not included in the cumulative analysis. This is a part of the same effort as the "NODOS" project, which is included in the cumulative analysis.
63	3D	3D-97		What assumptions were made for the "Anadromous Fish Screen Program" in the cumulative analysis? Which intakes are anticipated to be screened and when and how? Would these fish screen projects result in changes to the timing and amounts of water diverted at those facilities?
64	3D	3D-98		Unclear why "San Luis Reservoir Low Point Improvement" is not included in the cumulative analysis.

65	3D	3D-109		Unclear why "Yolo County Habitat/Natural Community Conservation Plan" is not included in the cumulative analysis.
66	3F	General		Uncertain if the screening and selection of intake locations is consistent with 404(b)(1).
67	3F	General		Unclear if intake locations examined are the same as those under consideration for the proposed North Bay Aqueduct project, and if the opportunity to reduce impacts by having both projects share intakes was considered.
68	3F	Figures	Figure 3F-1	Where is the cross section drawings referred to on this figure?
69	4	4-2	25-29	The EIR/EIS does not analyze the effects of CM1 on all required resource impact topics at a project-level; In order to implement CM1, additional NEPA analysis would be required.
70	6	General		We still have many unanswered questions on how CM1 would alter water levels. Do these numbers include the raise in water surface elevations from the physical constriction of the Sacramento River as described in 6-59? Do these numbers include the effects of the full operations of the CVP and SWP including the Delta Cross Channel Gates and the export pumps at Banks and Jones Pumping Plants? What are the numbers for the other alternatives? Are these numbers the same through all seasons and water year types? Would the expected increases in water levels in some parts of the Delta have any impacts, e.g., threatening levees, enabling scour and erosion to occur higher on, impacting outfall pipes, docks or other structures, reduce the navigability of the channels by reducing the clearance under bridges? Would the expected decreases in water levels in other parts of the Delta have any impacts, e.g., requiring more dredging in marinas and by docks; requiring water intakes to be lowered, reducing the navigability of the channels by reducing the depths of the channels? What about changes in water velocity and direction of flow? Would shallower waters mean slower flow with higher levels of sedimentation and accumulation of aquatic vegetation such as water hyacinth? Would deeper waters mean higher velocities with greater erosion and scour and higher maintenance requirements for riprap/revetment on levees and structures?
71	6	General		Refer to page 176-177 of the "Effects of the CVP upon the southern Delta water supply, Sacramento San Joaquin River Delta, California" (we'll send you a copy if you don't have it available) for a summary of a discussion of impact of export pumps on water levels. This type of discussion, although dated, is a good example of the type of analysis/discussion which is missing from the BDCP EIS/EIR and which is needed for USACE permit decisions. Also needed would be discussion of how water levels would change with the implementation of CM1 with and without continued operations of the existing SWP/CVP diversions.
72	6	6-23	24	If this section is intended to list all surface water-related laws that may apply to BDCP CM implementation, then the Rivers and Harbors Act Section 10 and 14 should be listed.

73	6	6-30	1-3	You quoted 230.10(d) here; however, 230.10 (a) through (c) contain relevant information that should be cited here, for example, CFR 230.10(a) "Except as provided under section 404(b) (2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."
74	6	6-45	31-43	Please give page numbers, not just chapters. We are unable to find the effects associated with erosion, accretion and sedimentation anywhere in the EIS/EIR.
75	6	6-45	31-43	Refer to page 151-153 of the "Effects of the CVP upon the southern Delta water supply, Sacramento San Joaquin River Delta, California" (we'll send you a copy if you don't have it available) for a discussion of changes in bottom elevations in the South Delta. This type of discussion, although dated, is a good example of the type of analysis/discussion which is missing from the EIS/EIR and which is needed for our permit decisions. Also needed would be discussion of how patterns of aggradation and degradation would change with the implementation of CM1 with and without continued operations of the existing SWP/CVP diversions.
76	8	8-114	12-29	This discussion of section 404 of the Clean Water Act both garbled and largely wrong. Recommend deleting all descriptions of USACE regulations in the entire EIS/EIR document except for Chapter 32.
77	11	Overall		The impacts are not well described. The proposal of adaptive management needs clarification.
78	11	10	26-30	Habitat quality as a mitigating factor especially with regard to migration
79	11	11	4-5	Are these impacts fully described elsewhere in the document? If so this should be referenced.
80	11	11, 12	19-24, 1-7	This is an extremely general statement. Maintenance activities and the associated impacts and mitigation need to be fully described and analyzed. If this is description and analysis is contained elsewhere in the document it should be referenced.
81	11	14	19-25	This is confusing. Is the reduced entrainment due to improved screening?
82	11	15-16	25-39 1-2	Clarification needed on the impacts to endangered salmon and the mitigation for those impacts.
83	11	16	3-4	The Benefits need clarification.
84	11	16	5-35	This alternative seems to negatively affect all anadromous species. Where are the benefits?
85	11	17	Table 11-1A-SUM2	Adverse affects to migration would reduce spawning potential; if the alternative adversely affects migration it would follow that the alternative would adversely affect spawning.
86	11	17	10-11	This statement is in conflict with the information provided.
87	11A	11A-60,	23-26	Are these CALFED projects currently being funded?

		11A-61	16-45	
88	11A	77	Table 2A.4-1	Table does not match table on page 37 from NMFS biological opinion for the Corps operation and maintenance of Daguerre Point Dam on the Yuba River (dated 12 May 2014). The NMFS BO shows the species are present for longer time periods than is in the BDCP EIS/EIR.
89	11A	130	Table 2A.6-1	Table does not match table on page 80 from NMFS biological opinion for the Corps operation and maintenance of Daguerre Point Dam on the Yuba River (dated 12 May 2014). The NMFS BO shows the species are present for longer time periods than is in the BDCP EIS/EIR.
90	12	General		There seem to be a lot of assumptions in the effects analysis and biological outcomes, particularly the discussion that all conservation measures would be entirely successful. There is a lack of quantitative analysis to determine that the project would achieve biological objectives.
91	12	General		Increased diversion of Sacramento River flows in the north Delta, and reduced diversions from south Delta channels (associated with Operational Scenario H) could result in the reduction in acreage of wetland habitats. Operational Scenario H is not articulated in the document to the degree that an accurate effects analysis can be made. The water export and flows released into the delta to protect fish and delta ecosystem associated with Scenario H is dependent upon future data collection and adaptive management in the projects near term. With so much uncertainty with export amounts and effects of climate change and drought, flow levels in the upstream rivers may likely change to the degree that water levels in adjacent managed wetlands would be altered. Similarly, increased diversions of Sacramento River flows in the north Delta may likely result in a permanent reduction in the managed wetland community downstream of these diversions.
92	12	General		CM1 is treated at a project level of analysis whereas CM2 -22 are described and analyzed at a programmatic level. Additional information is needed to effectively evaluate the CMs and their ability to mitigate adverse impacts on terrestrial habitats from proposed activities and operations associated with CM1.
93	12	12-10	Table 12-ES-3	Temporary and permanent effects to wetlands and other waters should be identified separately, that is each impact identified in a separate column.
94	12	12-115	32-39	Delete discussion on Corps permitting for CM1.
95	12	12-116	1-14	Delete discussion on Corps permitting for CM1.
96	12	12-118	6-8	Depending on proposed project activity, Letter of Permission, Standard or General Permit from the Corps is required prior to any work begun within navigable waters and other waters of the U.S.
97	12	12-147	12.3.2 .4	The methods used in the EIS/EIR to assess wetlands and other waters of the United States has identified less wetland acreage than have been Corps ground truthed and verified at several CM1 locations in the Delta. The under reporting of wetlands and other waters potentially affected by CM1

				alternatives means that USACE cannot rely upon the information to make even preliminary determinations of which CM1 alternative may contain the LEDPA.
98	12	12-164	21-37	It appears that the EIS/EIR proposes to mitigate the impacts to waters of the US from implementation of Conservation Measure 1 by the habitat creation included as part of Conservation Measure 4. A final mitigation plan is required prior to our permitting decisions. This means that if CM4 is proposed as mitigation for CM1, than CM4 will have to be developed to a sufficient level of detail to be evaluated as acceptable mitigation for CM1. CM4 is not sufficiently described in the EIS/EIR to be evaluated as appropriate mitigation for CM1. In addition, the proposed time of 10 years or so between the impacts to waters and the mitigation would result in a mitigation ratio considerably greater that 1:1 due to temporal losses in the functions and services of those waters. Lastly, the plan for mitigation described is not compliant with USACE 2008 Compensatory Mitigation Rule.
99	12	12-165	13-20	The creation of approximately 3,400 acres of high-value tidal perennial aquatic natural community as part of CM4 is possible, but without the project level analysis for CM4, the feasibility and actual implementation of this measure is uncertain; therefore, adverse effect associated with construction activities may be unavoidable.
100	12	12-167	37-40	Why wouldn't increased diversions of Sacramento River flows in the north Delta result in a permanent reduction in tidal perennial aquatic community downstream of these diversions?
101	12	12-179	1-10	We don't believe that the EIS/EIR should assert that mitigation for impacts of CM1 will be accomplished by the undefined and uncertain conservation measures 2-22. All mitigation for CM1 should be part of CM1.
102	12	12-187	22-38	During the near-term timeframe (the first 10 years of BDCP implementation), Alternative 1A would affect the valley/foothill riparian natural community through CM1 construction losses (58 acres 23 permanent and 28 acres temporary). The natural community would be lost primarily along the eastern bank of the Sacramento River at intake sites, along pipeline routes connecting these intakes to the forebay (for CM1). The construction losses of this natural community would likely result in an adverse effect; the mitigation plan for losses, CM7 and CM3, are not clearly articulated or analyzed to insure impacts would be offset by avoidance and minimization measures and protection/restoration actions associated with CM7 and CM3. Restoration of 800 acres and protection (including enhancement) of 750 acres of 35 valley/foothill riparian natural community during the first 10 years of Alternative 1A implementation would not likely minimize this near and long-term loss of valley oak. Mitigation for the loss of this species would require decades, therefore; CM1 would likely have a permanent long term adverse effect to the valley riparian community.
103	12	12-188	20-26	Alternative 1A would affect the valley/foothill riparian natural community through CM1 construction losses (58 acres). The construction losses of this special-status natural community represent an

				adverse effect. Feasibility of implementing CM7 and CM3 must be further investigated before it is certain that these measures would offset adverse effects and minimize this loss.
104	12	12-2015 12-2016	39-44 1-5	Restoration, enhancement and protection of valley foothill/riparian habitat over the NT and LLT would not likely mitigate for adverse effects to valley oak which take decades to fully mature and cannot be replaced in-kind within a 10 to50 year period. CM1 would have a permanent adverse impact on riparian habitats.
105	12	12-2078	28-42	CM1 conveyance facilities and operations would result in the permanent and temporary combined loss of approximately 33 acres of vernal pool crustacean habitat. In addition, conveyance facility construction could result in the indirect conversion of 10 acres of modeled vernal pool crustacean habitat in the vicinity of Clifton Court Forebay. Alternative 4 would impact 14 acres of critical habitat for vernal pool fairy shrimp. Mitigation measures (AMM12) may not be adequate to ensure there would be no adverse effects or habitat loss. In essence, AMM12 states that project design would minimize indirect effects on modeled habitat, avoid effects on core recovery areas, minimize ground-disturbing activities or alterations to hydrology to ensure there is no suitable habitat within these areas. Conveyance facilities may impact over 33 acres of vernal pool habitat due to mitigation timeframe and success rate for creation of vernal pool. Restoration and enhancement would not likely suffice for mitigation for loss.
106	12	12-2083	1-25	These mitigation ratios may not coincide with the Corps policies and requirements for compensatory mitigation. Preservation and restoration (versus creation) may not compensate for temporary or permanent loss of vernal pools. Considering temporal loss (5-10 years) of wetland function associated with temporary adverse impacts may require a higher mitigation ratio than anticipated.
107	12D	12D-1	16-38	The analysis presented in the appendix supplementing the impact assessment of Chapter 12 states it assesses whether the portion of conservation measures implemented in the 10-year near-term period would offset impacts of conveyance facilities, thereby, rendering feasible at a planning level. However, the assessment considers if suitable conditions are present within specified conservation zones to implement the appropriate conservation measures within the near-term. This level of analysis is not at the project-level, as it does not consider socio-economic aspects of feasibility (e.g., funding, availability of properties, willing sellers of real property), and does not consider engineering feasibility of implementing the CMs. Conveyance facilities operations effects were not considered in this section either. The feasibility of offsetting the impacts of CM1 construction and operation of the water conveyance facilities (CM1) is analyzed in the EIR/EIS at a project level supposedly, while implementation of the remaining conservation measures is analyzed at a program level. It doesn't seem plausible to avoid significant adverse effects by relying upon on mitigation measures that are not fully fleshed out/not yet known to be feasible.

108	12D	12D-23	39-43	This section addresses mitigation for vernal pool or alkali seasonal wetland at a ratio of 1:1 (if replacement occurs before the impact occurs), or at 1.5:1 if replacement occurs concurrently with the impact. There is no discussion regarding compensation for adverse effect on wetlands ecosystem function, and of the success/failure rate for compensatory mitigation.
109	12D	12D-28	Table 12D-9	Mitigation ratios used for compensatory mitigation for impacts to wetlands/waters of the US impacts must be approved by Corps. A ratio of 1:1 for vernal pools is not a standard ratio in the section 404 program.
110	18	General		The document is overwritten and obscures the process rather than explaining it to the public.
111	18	General		The federal process is downplayed and is virtually absent from the document.
112	18	General		The Impacts/MM are split too finely. They could easily be stated in 4 instead of 8: Archaeological sites, Built environment, TCPs, and Unanticipated Finds/Effects.
113	18	General		The BDCP is constrained by state law from waiting until after the formal evaluation of cultural resources prior to determination of eligibility within this document. It is my understanding that determinations of eligibility cannot be rescinded on a state level once made. If the determination of eligibility/significance cannot be reversed, unnecessary funds may be expended to mitigate for resources that do not meet the National Register of Historic Places or California Register of Historic Resources criteria. There should be some discussion concerning this limitation within the document that explains why sites that have not been evaluated are being considered eligible.
114	18	General		The References Cited section is incomplete and should be updated.
115	18	General		Not all previously recorded sites were captured in the record search.
116	18	General		There appears to be confusion in the document concerning the ability to access a property and the presence of sites and/or the determination of a site's eligibility. Recommend clarifying process.
117	19	General		The Delta King appears to be the largest vessel which recently navigated past the locations of the proposed intakes for CM1. Could such a vessel continue to navigate past the proposed CM1 intakes on the Sacramento River, both during and after construction, including operating of the new intakes with and without continued operations of the existing SWP/CVP diversions?
118	19	General		Navigational discussions are incomplete. No mention of in-delta navigation or what impacts CM1 would have on navigation, with or without continued operations of the existing SWP/CVP diversions. Refer to the USACE publications "Waterborne Commerce of the United States" at http://www.navigationdatacenter.us/wcsc/wcsc.htm. In 2011, 25,000 tons of sand and gravel (6-9 ft vessel draft) were shipped on Middle River, CA; 24,000 tons of sand and gravel (6-9 ft vessel draft) were shipped on Mokelumne River, CA; 12,000 tons of sand and gravel (10-12 ft draft) were shipped on Old River, CA. In 2010, 59,000 tons of sand and gravel (10-12 ft draft) were shipped on Old River, CA. In 2009, 18,000 tons of sand and gravel (6-9 ft draft) were shipped on Old River, CA. In 2007,

				140,000 tons of sand and gravel (10-12 ft vessel draft) were shipped on Middle River, CA. Need discussion of how water depths, velocity, direction of flow, and patterns of aggradation and degradation would change with the implementation of CM1 with and without continued operations of the existing SWP/CVP diversions and its impacts to shipping on Middle River, Mokelumne River and Old River.
119	19	19-184	23-40	Extension from the bank into the Sacramento River is not the only factor in determining impacts to navigation. The depth of the River is also important; if the facility is located in the deepest side of the River its impacts to navigation would be disproportionate to its extension from the shore. In addition, intakes could also affect navigation by altering the water depth, velocity, direction of flow, and patterns of erosion and accretion, both by the physical structure of the intakes as well as the diversion of water by the intake. Also another example of lack of specificity which affects USACE ability to compare alternatives as well as different intake locations.
120	30	General		For Section 14 review, Chapter 30 should contain a write-up/discussion of Executive Order 11988.
121	32	General		Executive Order 11988 was left out of this list and does need to be considered and addressed